<u>ABSTRACT</u>

A sequential burst mode regulation system to deliver power to a plurality of loads. In the
exemplary embodiments, the system of the present invention generates a plurality of phased
pulse width modulated signals from a single pulse width modulated signal, where each of the
phased signals regulates power to a respective load. Exemplary circuitry includes a PWM signal
generator, and a phase delay array that receives a PWM signal and generates a plurality of
phased PWM signals which are used to regulate power to respective loads. A frequency selector
circuit can be provided that sets the frequency of the PWM signal using a fixed or variable
frequency reference signal.